ALPAO is now positioned as the world leader in adaptive optics systems. We design and build deformable mirrors, wavefront sensors, and tailor-made systems - specially designed for applications such as ophthalmology, astronomy, microscopy, microelectronics, defense, and optical telecommunications.

With a strong international footprint and exporting more than 90% of its goods, ALPAO takes up multidisciplinary technological and scientific challenges to respond to international research projects, such as the development of deformable mirrors for the largest telescope in the world or the collaboration with the Nobel Prize in Physics team, Reinhard Genzel and Andrea Ghez, equipping one of the key instruments used for research on the supermassive black hole of the Milky Way.

In the context of a growing activity in the Free Space Optics (FSO) domain, especially in satellite communication, ALPAO is looking for an **Adaptive Optics (AO) Research Engineer** with a strong background in atmospheric turbulence mitigation for optical systems.

This position is passionate about hands-on science and engineering at the crossroads of AO-related domains like applied mathematics, optics, physics, control and wavefront sensing. As a member of a team of physicists, optical and software engineers, the main challenge of the position is to push the boundaries of classical AO systems and adapt them to the rough turbulence conditions encountered by FSO systems, to enhance robustness and increase their level of autonomy and automatization.

Main Activities:

1. **DEVELOPMENT OF ALGORITHMS FOR ADAPTIVE OPTICS**

- Design, implementation and test of algorithms for the different fields of adaptive optics (measurement and
- wavefront reconstruction, calibration, control)
- Performing tests using an adaptive optics simulation code
- Participation in optical bench tests
- Writing test reports
- Bibliography

2. **SOFTWARE DEVELOPMENT**

- Develop and maintain control and simulation codes for adaptive optics systems
- Physics simulations
- Define, perform and analyze tests and trials for each development
- Manage Gitlab repositories (issues, branches, merge requests)

3. **STUDY, DESIGN, AND CHARACTERIZATION OF ADAPTIVE OPTICS SYSTEMS**

- Design AO systems according to the constraints of the final application
- Define validation strategies
- Participation in the integration of the system and on-site installation
- Participation in factory and site acceptance tests
- Telemetry analysis and performance optimization

4. AFTER SALES SERVICE

- Provide part of the after-sales support at ALPAO for software and simulation codes
- Service especially in English (oral and written)

Graduated from an engineering school/thesis, you have advanced knowledge in adaptive optics, physics and mathematics.

You have knowledge in linear algebra as well as in software architecture and software development methodology.

Your English is perfectly fluent.

You wish to put your skills at the service of an agile, mature and fast growing company, send your application to: jobs@alpao.fr